

REMARKS

Claims 1-17 and 19-22 are all the claims pending in the application. By this Amendment, Applicant adds claims 20-22. In addition, by this Amendment, Applicant cancels claim 18. Finally, Applicant amends claim 19. The amendments to claim 19 were made for reasons of precision of language and consistency, and do not narrow the literal scope of the claims and thus do not implicate an estoppel in the application of the doctrine of equivalents.

Preliminary Matters

Applicant thanks the Examiner for initialing the references listed on Form PTO-1449 submitted with the Information Disclosure Statement filed on July 11, 2001. Applicant also thanks the Examiner for accepting the drawings filed on February 21, 2001. Applicant further thanks the Examiner for acknowledging the claim to foreign priority and for confirming that the certified copy of the priority document was received.

Claim Rejection under section 35 U.S.C. § 101

The Examiner rejected claim 18 under 35 U.S.C. § 101. Claim 18 has been canceled. Therefore, this rejection is rendered moot. It is appropriate and necessary for the Examiner to withdraw this rejection.

Claim Rejections under 35 U.S.C. § 112, second paragraph

The Examiner rejected claim 19 under 35 U.S.C. § 112, second paragraph as being indefinite by having a program data signal comprise of steps. Applicant thanks the Examiner for pointing out, with particularity, the aspects of the claim thought to be indefinite. Applicant amends the claim to recite elements of a signal as opposed to steps. Therefore, Applicant

respectfully requests the Examiner to withdraw this rejection ~~in view of the claim amendments being made herein.~~

Claim Rejections under section 35 U.S.C. § 103

The Examiner rejected claims 1-19 under 35 U.S.C. § 103(a). Applicant respectfully traverses this rejection in view of the following comments.

A. Takeoka and Sakurai

Claims 1, 9-11, and 16-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,665,082 B1 to Takeoka et al. (hereinafter "Takeoka") in view of U.S.

Patent No. 5,924,802 to Sakurai (hereinafter "Sakurai"). Claim 18 has been canceled.

Therefore, this rejection is moot with respect to claim 18. Of the remaining rejected claims, only claims 1, 9, and 16 are independent. This response focuses, at least initially, on these independent claims.

To begin, independent claim 1 recites a printer comprising:

a detector configured to detect that a printer cable, which is connected to a computer, is unplugged; and

a clearer configured to clear printing data received from the computer and stored in a data buffer when the detector detects that the printer cable has been unplugged.

The Examiner asserts that claim 1 is directed to a printer and is obvious over Takeoka in view of Sakurai. In particular, the Examiner alleges that Takeoka discloses a printer having a clearer.

The Examiner further alleges that although Takeoka does not teach or suggest a detector as set forth in claim 1, Sakurai cures the deficient teaching of Takeoka. Finally, the Examiner alleges that one of ordinary skill in the art would have been motivated to combine the two references

because they are from the same field of endeavor (see page 4 of the Office Action). Applicant respectfully disagrees with the Examiner. Applicant has carefully studied Takeoka's discussion of erasing image data from RAM, which lacks any teaching or suggestion of clearing image data when the detector detects that the print cable is unplugged as set forth in claim 1, and Sakurai's discussion of detecting by a host computer whether or not the connection cable between the printer and the host computer is connected, which lacks having a clearer and having a printer with the detector.

For example, Takeoka teaches a method for reducing the necessary storage capacity of the internal memory of a printer. In general, Takeoka teaches that the image data is transmitted from the printer controller to the printer at a fixed period; consequently, the printing can be performed at a constant speed without requiring that the printer be provided with an image memory for storing image data representing one frame of an image (see *Abstract*).

Specifically, Takeoka teaches that when transmission of the image data ends, data indicative of the end of printing is supplied from the printer to the printer controller. When the printer controller receives the data indicating the end of printing, the printer controller applies a printer deactivation command to the printer. When the printer receives the printer deactivation command, the image data that has been stored in the RAM is erased and the printer is initialized (col. 12, lines 58 to 65).

Takeoka, however, only teaches erasing image data stored in the RAM, when the printer receives the printer deactivation command from the printer controller and not when it is detected that the printer cable has been unplugged. In other words, Takeoka fails to teach or suggest a clearer which clears the printing data when the detector detects that the printer cable has been

unplugged. Moreover, as acknowledged by the Examiner, Takeoka does not teach or suggest a printer's detector that detects whether the printer cable has been unplugged, as set forth in claim 1 (see page 4 of the Office Action).

Sakurai fails to cure the deficient teachings of Takeoka. In general, Sakurai teaches a printer receiving image information from a host computer and performs printing based on the received image information. Sakurai teaches that when an optional unit is newly attached to the printer, the printer changes the device ID which is selected from an ID ROM in accordance with the optional unit. Then output from an interface circuit is changed so that the host computer detects the change of the output from the interface circuit. The host computer makes a device-ID request to the printer to obtain the device ID corresponding to the optional device. Then, the host computer determines whether or not a printer driver which is currently operative corresponds to the printer with the newly-attached optional device (see *Abstract*).

Specifically, Sakurai teaches the host computer controlling the printer by implementing an algorithm for the printer-driver selection by the host computer 100 based on the device ID of the printer. In Sakurai, the host computer 100 executes this processing when the power of the host computer is turned on or when the system is reset. That is, when the power of the host computer 100 is turned on or the system is reset, resetting is performed (Fig. 5; col. 5, lines 54 to 66).

Next, in Sakurai, the device ID of the printer is read from the printer, and the option-device setting status of the printer is examined. Then, it is determined whether or not the printer driver, which is currently in the host computer 100, supports the currently-connected printer, based on the device ID. If it is determined that the printer driver supports the printer, then it is

determined whether or not the power of the printer is on, or the connection cable between the printer and the host computer is normally connected. If it is determined that the power of the printer is off or the cable is disconnected, the host computer again reads the device ID of the printer (col. 5, line 66 to col. 6, line 21).

In Sakurai, however, there is no teaching or suggestion of a clearer that will clear the printing data when the detector detects that the printer cable has been unplugged. Moreover, in Sakurai, the printer does not have a detector, which detects whether the cable is unplugged. Sakurai teaches a host computer determining whether or not the connection cables are normally connected. In other words, Sakurai fails to teach or suggest a printer having a detector detecting that the printer cable has been unplugged.

Moreover, one of ordinary skill in the art would not have combined the two references. Most if not all inventions arise from a combination of old elements. *In re Kotzab*, 55 USPQ2d at 1316 (*citing In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998)). Thus, every element of a claimed invention may often be found in the prior art. *Id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Id.* Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. *In re Kotzab*, 55 USPQ2d at 1316 (*citing In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); and *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)).

Although a reference need not expressly teach that the disclosure contained therein should be combined with another, the showing of combinability, in whatever form, must

nevertheless be “clear and particular”. *Winner International Royalty Corporation v. Ching-Rong Wang*, 202 F.3d 1340, 1348, 53 USPQ2d 1580, 1586-87 (Fed. Cir. 2000).

The Examiner alleges that Takeoka and Sakurai are combinable because they are in the same field of endeavor (see pages 3-4 of the Office Action). Applicant respectfully disagrees. Takeoka is directed to a printer, whereas Sakurai is directed to having a host computer for connecting to a printer a newly-attached device. One of ordinary skill in the art confronted with a problem of reducing necessary storage capacity in the printer, as taught by Takeoka, would not have turned to Sakurai, which deals with a computer host facilitating attachment of new devices to a printer. In short, the two references are in a different field of endeavor, *i.e.*, Takeoka is related to a printer and Sakurai is related to a computer, and the two references address different problems. Consequently, Applicant respectfully submits that one of ordinary skill in the art would not have combined these two different references.

Therefore, a printer comprising “a detector configured to detect that a printer cable, which is connected to a computer, is unplugged; and a clearer configured to clear printing data received from the computer and stored in a data buffer when the detector detects that the printer cable has been unplugged,” as set forth in claim 1 is not taught or suggested by the combined teachings of Sakurai and Takeoka. Sakurai and Takeoka, taken alone or in any conceivable combination, lack having a clearer clear data when detector detects that the printer cable is unplugged and having a printer with the detector detecting that the cable is unplugged. For at least these exemplary reasons, Applicant respectfully submits that claim 1 is patentable over the combined teachings of Sakurai and Takeoka. Therefore, Applicant respectfully requests the Examiner to withdraw this rejection of claim 1.

Independent claims 9, 16, and 17 recite features similar to the features argued above with respect to claim 1. Since claims 9, 16, and 17 contain features that are similar to the features argued above with respect to claim 1, those arguments are respectfully submitted to apply with equal force here. For at least substantially analogous reasons, therefore, Applicant respectfully requests the Examiner to withdraw this rejection of independent claims 9, 16, and 17. Claims 10-11 are patentable at least by virtue of their dependency on claim 9.

B. Takeoka, Sakurai, in view of In re Dulberg

The Examiner rejected claims 2-5 and 12-14 under 35 U.S.C. § 103(a) as being unpatentable over Takeoka and Sakurai in view of additional features being allegedly an obvious design choice. Applicant respectfully traverses this rejection in view of the following comments.

First, independent claim 2 recites, among a number of unique features, that a printer comprises:

a clearer configured to clear the printing data stored in the data buffer when the print start signal is received again from the computer or another computer after the print start detector has detected the print start signal and before the print finish detector detects the print finish signal.

The Examiner acknowledges that Takeoka does not teach or suggest a clearer, as set forth in claim 2 (see page 8 of the Office Action). The Examiner, however, alleges that Sakurai cures the deficient teachings of Takeoka (see page 8 of the Office Action). Applicant respectfully disagrees. Sakurai only teaches having a host computer detect whether or not a connection cable between the printer and the host computer is connected. In Sakurai, the host computer does not receive a print start and a print finish signal. Moreover, Sakurai fails to teach or suggest a

clearer, which clears the printing data when the print start signal is received again from the computer after detecting the print start signal and before the print finish detector detects the print finish signal, as set forth in independent claim 2. Moreover, one of ordinary skill in the art would not have been motivated to combine the two references for the reasons explained above. For at least these exemplary reasons, therefore, Applicant respectfully requests the Examiner to withdraw this rejection of independent claim 2 and its dependent claims 3-5.

In addition, dependent claim 3 recites: “the printer does not have a cable detector which directly detects that a printer cable connected to the computer is unplugged.” If as alleged by the Examiner with respect to claim 2, Sakurai’s host computer is equivalent to the printer, then in order to meet the exemplary feature of claim 3, Sakurai’s host computer must not have a cable detector. As is visible from col. 6, lines 5 to 20 of Sakurai, the host computer detects a cable connection. Hence, Sakurai fails to teach or suggest this exemplary feature of claim 3. For at least this additional reason, Applicant respectfully submits that claim 3 is patentable over the combined teachings of Sakurai and Takeoka.

Furthermore, claims 12-14 are patentable at least by virtue of their dependency on claim 9.

C. Takeoka, Sakurai, and Han

The Examiner rejected claims 6-8 under 35 U.S.C. § 103(a) as being unpatentable over Takeoka in view of Sakurai and further in view of U.S. Patent No. 5,991,542 to Han (hereinafter “Han”). Applicant respectfully traverses this rejection with respect to the dependent upon claim 2, claims 6-8. Applicant has already demonstrated that the combined teachings of Takeoka and Sakurai do not meet all the requirements of independent claim 2. Han is relied upon only for its

teaching of mounting a drive image, and as such clearly fails to compensate for the above-identified deficiencies of Takeoka and Sakurai. Together, the combined teachings of Takeoka, Sakurai, and Han would not have (and could not have) led the artisan of ordinary skill to have achieved the subject matter of claim 2. Since claims 6-8 are dependent upon claim 2, they may be patentable at least by virtue of their dependency.

D. Takeoka, Sakurai, and Ryu

The Examiner rejected claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Takeoka in view of Sakurai (U.S. Patent No. 5,942,802) and further in view of U.S. Patent No. 5,978,921 to Ryu (hereinafter “Ryu”). Applicant respectfully traverses this rejection with respect to the dependent upon claim 2, claim 15. Applicant has already demonstrated that the combined teachings of Takeoka and Sakurai do not meet all the requirements of independent claim 2. Ryu is relied upon only for its alleged teaching of the control of the power of a peripheral device by the computer system, and as such clearly fails to compensate for the above-identified deficiencies of Takeoka and Sakurai. Together, the combined teachings of Takeoka, Sakurai, and Ryu would not have (and could not have) led the artisan of ordinary skill to have achieved the subject matter of claim 2. Since claim 15 depends on claim 2, it may be patentable at least by virtue of its dependency.

E. Takeoka, Sakurai, and Official Notice

Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Takeoka in view of Sakurai and further in view of an Official Notice. Applicant respectfully traverses this rejection in view of the following comments. Claim 19 contains features that are similar to the features argued above with respect to claim 1, those arguments are respectfully submitted to

apply with equal force here. Moreover, Applicant respectfully submits that the exemplary features of claim 19 are not well known in the prior art. For at least substantially analogous reasons, therefore, Applicant respectfully requests the Examiner to withdraw this rejection of independent claim 19.

New Claims

In order to provide more varied protection, Applicant adds claims 20-22. Claim 20 is patentable at least by virtue of its dependency on claim 9. Furthermore, independent claims 21 and 22 recite features similar to the features argued above with respect to claims 1 and 2, respectively. Therefore, for at least substantially analogous reasons, claims 21 and 22 are patentable over the prior art references cited by the Examiner.

Conclusion

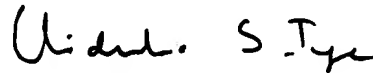
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Amendment under 37 C.F.R. § 1.111
U.S. 09/788,672

Attorney Docket No.: Q62837

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Chid S. Iyer
Registration No. 43,355
(for Kelly G. Hyndman, Reg. No. 39,234)

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: January 6, 2005